

August 7, 2000

MEMORANDUM

TO: Mark Dietrich, Acting Administrator
Pocatello Regional Office

FROM: Daniel Heiser, P.E.
State Technical Services Office

THROUGH: Daniel Salgado
Lead Process Engineering
State Technical Services Office

SUBJECT: Technical Analysis for Revision to Tier II Operating Permit (#029-00008)
Soda Springs Phosphate, Inc. (Soda Springs)

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01 Sections 404.04 (Rules for the Control of Air Pollution in Idaho) (Rules) for revision of Tier II Operating Permits.

PROJECT DESCRIPTION

The following modifications are being made for Tier II Operating Permit #029-00008:

- Increase the PM and PM-10 emission limits from 5 lb/hr to 7 lb/hr from the dryer/cooler scrubber stack.
- Add a feed rate limitation of 18 tons/hr, and remove the permitted production rate of 12.2 tons/hr. The feed rate is currently monitored and is recorded on a log sheet every hour.
- Increase the performance testing, from the dryer/cooler scrubber stack, from a one time requirement to an annual requirement.
- Add the grain loading requirement under IDAPA 58.01.01.710. The emission standard under this section is two tenths (0.2) grains per dry standard cubic foot for process equipment for which construction or modification has commenced prior to July 1, 2000, and one tenth (0.1) grains per dry standard cubic foot for process equipment for which construction or modification has commenced on or after July 1, 2000.

DEQ will incorporate all the above modifications into the revised Tier II permit.

The following modification was requested by Soda Springs Phosphate, Inc., but is denied for this modified Tier II permit:

- Change the permit to allow for visible emission testing before each performance run (120 visible emission observations, 30 minutes) and after each performance run (120 visible emission

observations, 30 minutes), from the dryer/cooler scrubber stack.

DEQ denies this request because it is the intent of the April 21, 2000 DEQ Settlement Agreement with Soda Springs Phosphate, Inc., that visible emissions be measured concurrently with the performance test. Section 7.C. of the Settlement Agreement states that performance testing shall be done in accordance with the 1999 permit. Section 3.5 of the 1999 permit states that visible emissions shall be observed and recorded concurrently with the emission test.

Also, due to comments received during the public comment period, the permit will be modified to include requirements for addressing odor problems due to odor complaints. Soda Springs Phosphate will be required to address odor complaints, and take any necessary action to correct the odor problem, in their modified Tier II permit.

The above modifications refer to emissions from the scrubber stack. In addition to the scrubber stack, the emissions sources of the facility are the screens, hammer mill, conveyers, transfer points, and ore and product handling. Fugitive emissions from unpaved roads are considered part of the stockpiles emissions because the facility is very close to the county road.

FACILITY DESCRIPTION

SSP is a phosphate granulation facility which granulates raw material (powdered phosphate ore or gypsum) by mixing it with lignosulfonate molasses. Raw material is delivered to the facility by dump trucks. Raw material is transferred from stockpiles by a front-end loader to the feed shaker screen that leads to the feeder belt, the feeder bin, the pan feeder, the feed belt, and then to the pug mill. Lignosulfonate powder is delivered by cars where it is pumped to a storage tank. Lignosulfonate is mixed with water in the mix tank to form a binder which is pumped to the pug mill where it is milled with the raw material. The product then leaves to a granulator, a dryer, dryer belt, then to the cooler.

Emissions from the dryer and the cooler are controlled by two (2) dry cyclones and a wet cyclone connected in series with three wet scrubbers. After that, the product is transferred to the cooler discharge belt, the cooler extension belt, and then to a set of three screens: the Rotex screen, the hummer screen and the mini product screen. Oversize product is transferred to the oversize belt which leads to the hammer mill. Products from the screens are transferred to the product storage via the product belt and the mini product belt. The fines are recycled to the feed belt through the fines return belt. Loading of the product is made by a front-end loader that transfers the product to the loadout shaker, the loadout belt, then to trucks or cars. Products from the hammer mill pass through a multiclone that leads to the cooler.

This project is for the following existing point and fugitive emissions sources:

Point Sources:

- (1) Scrubber Stack: Emissions from the scrubber stack are controlled by the following:

Name	Manufacturer	Size	Speed	Capacity
Cyclones (2) {dry}				
Cyclone {wet}				
Scrubber Pump #1	Barkley	4" x 3"	3600 rpm	360 GPM
Scrubber Pump #2	Gallagher	Sump x 3"	1500 rpm	200 GPM
Scrubber Pump #3	Gallagher	Sump x 3"	1500 rpm	200 GPM
Multiclone			1200 rpm	10000 CFM
High Pressure Pump	Hypro	Diaphragm	350 rpm	17 GPM

The stack parameters are the following:

UTM-X Coordinate (KM)	452.3
UTM-Y Coordinate (KM)	4724.8
Stack Exit Height (ft)	60
Stack Exit Diameter (ft)	8
Stack Exit Flow Rate (ACFM)	19,300
Stack Exit Temperature (°F)	95°

(2) Screens

<i>Name</i>	<i>Manufacturer</i>	<i>Size</i>	<i>Speed</i>	<i>Capacity</i>
Feed Shaker	Cedar Rapids	4' x 10'	900 rpm	12 tph
Rotex	S/A, #80	5' x 7'	227 rpm	12 tph
Hummer		4' x 10'	950 rpm	8 tph
Mini Product		2.5' x 3.5'	1200 rpm	3 tph
Load Out	Tyler-3-Deck	5' x 10'	960 rpm	30 tph

Fugitive Sources:

- (1) Ore unloading, piling, stockpiles, and feeding
- (2) Product loading

A more detailed process and equipment description can be found in the operating permit application materials and in the facility's source file.

SUMMARY OF EVENTS

On February 25, 2000, DEQ received an application from SSP for modification of their existing Tier II OP (#029-00008; 4/12/96, date of original issuance, and July 23, 1999, date of modified permit). On March 24, 2000, the application was declared complete. On June 22, 2000, a proposed Tier II OP was issued for public comment. The public comment period closed on July 24, 2000.

DISCUSSION

1. **Emission Estimates**

Emission estimates were provided by SSP in their original Tier II request and in their previous modification request for the Tier II operating permit dated July 23, 1999; the previous DEQ emission estimates from all the sources of the facility are shown in Appendix A of this technical memorandum. Calculations were based on the maximum production rate of the dryer, 12.2 tons per hour of *product* or 18 tons/hour of *feed* material.

Emissions from the dryer, pugmill, granulator, and cooler were based on a previous source test. Screens, transfer points, milling, and ore and product handling were estimated by using either the corresponding emissions factors or the predictive equation furnished by the 5th edition of AP-42. Emissions from stockpiles were estimated using emissions factors from the 4th edition of AP-42 (not available in the 5th edition). A control efficiency of fifty percent (50%) was assumed for the use of water or dust suppressants.

In their modification request, SSP requested an emission rate of 7 lb/hr. The next section on "Modeling" discusses the proposed emission rate and its impact on the NAAQS.

2. Modeling

Recently, DEQ has determined that the background PM-10 concentrations for the Soda Springs area are the following (note these background concentrations differ from that used in the analysis for the modified OP dated July 23, 1999):

PM-10 24-hour background concentration: $108 \mu\text{g}/\text{m}^3$

PM-10 annual background concentration: $23.3 \mu\text{g}/\text{m}^3$

Based on a scrubber stack performance test result of 8.3 lb/hr, DEQ modeled the PM-10 ambient impacts from this point source using ISCST3. DEQ determined that the impacts are $44.74 \mu\text{g}/\text{m}^3$ (24-hr) and $5.82 \mu\text{g}/\text{m}^3$ (annual). When background concentrations are added, the impacts are:

24-hr: $108 \mu\text{g}/\text{m}^3 + 45 \mu\text{g}/\text{m}^3 = 153 \mu\text{g}/\text{m}^3$, which is > the standard of $150 \mu\text{g}/\text{m}^3$.

Annual: $23.3 \mu\text{g}/\text{m}^3 + 5.82 \mu\text{g}/\text{m}^3 = 29.12 \mu\text{g}/\text{m}^3$, which is < the standard of $50 \mu\text{g}/\text{m}^3$.

Therefore, there is a potential exceedance of the 24-hr National Ambient Air Quality Standard (NAAQS) for PM-10 based on an emission rate of 8.3 lb/hr for the scrubber stack. SSP then requested that the scrubber stack emission rate be permitted to 7 lb/hr, which is greater than the originally permitted value of 5 lb/hr, but less than the performance test result of 8.3 lb/hr. SSP stated they would improve the emission control equipment in order to meet a 7 lb/hr standard.

At 7 lb/hr, the estimated 24-hour PM-10 ambient impact from the point source is $38 \mu\text{g}/\text{m}^3$. When added to the 24-hour background concentration of $108 \mu\text{g}/\text{m}^3$, the total 24-hour ambient concentration for PM-10 is $146 \mu\text{g}/\text{m}^3$. This is less than the 24-hour NAAQS of $150 \mu\text{g}/\text{m}^3$, and DEQ proposes to allow a permitting limit of 7 lb/hr based on this modeling analysis and SSP's improvement in emission control. To assure the new emission limit will be met, DEQ proposes to increase the performance testing from a one time requirement to an annual requirement.

Note that in determining compliance with NAAQS in the above modeling analysis, only point sources are considered by DEQ.

3. Area Classification

SSP - Soda Springs, Caribou County, Idaho, is located in AQCR 61. The area is classified as attainment or unclassifiable for all criteria air pollutants.

4. Testing

SSP was required to conduct a performance test on the scrubber stack based on previously issued permits. In January 2000, a performance test was performed which showed particulate emissions exceeded the permitted value of 5 lb/hr for the scrubber stack. Based on the test results and discussions between SSP and DEQ, SSP requests that permitted values for the scrubber stack be raised to 7.0 lbs/hr (30.66 tons/yr). DEQ proposes to grant that request and DEQ proposes performance testing be required annually to assure the new permitted value is not exceeded.

5. Visible Emission Evaluations

SSP requests that visible emission testing be conducted before and after each performance test rather than concurrently. Before each test run, 120 visible emission observations will be made, and after each performance run, 120 visible emission runs will be made. SSP requested this modification because only one SSP person is available to run both the performance test and the visible emission runs.

DEQ will not grant this request due to the Settlement Agreement, as discussed above. It should be noted that several permitted sources in Idaho also have the same requirement of concurrent visible emission reading and performance testing. In many of those cases the permitted sources contract performance testing services to accomplish both visible emission reading and performance testing simultaneously.

6. Facility Classification

SSP - Soda Springs, Idaho, is not a designated facility as defined in IDAPA 58.01.01.006.25. The facility is classified as an SM source because the potential emissions are below the major source threshold if the source complies with federal regulations and limits.

7. Regulatory Review

This operating permit is subject to the following permitting requirements:

- | | | |
|----|---------------------------------|--------------------------------------------------------------|
| a. | <u>IDAPA 58.01.01.401</u> | Tier II Operating Permit |
| b. | <u>IDAPA 58.01.01.403</u> | Permit Requirements for Tier II Sources |
| c. | <u>IDAPA 58.01.01.404.01(c)</u> | Opportunity for Public Comment |
| d. | <u>IDAPA 58.01.01.404.04</u> | Authority to Revise or Renew Operating Permits |
| e. | <u>IDAPA 58.01.01.406</u> | Obligation to Comply |
| f. | <u>IDAPA 58.01.01.470</u> | Permit Application Fees for Tier II Permits |
| g. | <u>IDAPA 58.01.01.625</u> | Visible Emission Limitation |
| h. | <u>IDAPA 58.01.01.650</u> | General Rules for the Control of Fugitive Dust |
| i. | <u>IDAPA 58.01.01.700</u> | Particulate Matter -- Process Weight Limitations |
| j. | <u>IDAPA 58.01.01.710</u> | Particulate Matter -- Process Equipment Emission Limitations |
| | | On Or After July 1, 2000 |
| k. | <u>IDAPA 58.01.01.775</u> | Rules for Control of Odor |

FEES

Fees apply to this facility in accordance with IDAPA 58.01.01.470. The facility is a synthetic minor source and is subject to permit application fees for modified Tier II permits of five hundred dollars (\$500.00).

RECOMMENDATIONS

Based on the review of its existing Tier II OP, information provided by the company, and all applicable state and federal rules and regulations concerning the revision of a Tier II OP, staff recommend that Soda Springs Phosphate, Inc. be issued a proposed Tier II Operating Permit. An opportunity for public comment on the air quality aspects of the proposed permit was provided as required by IDAPA 58.01.01.404.01.

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cc: Pocatello Regional Office
State Technical Services

APPENDIX A

(Emission Estimates)

Soda Springs Phosphate, Inc.
P.O. Box 578
Soda Springs, ID 83276

Contact Person: Lynn Moore
OP #: 029-00008

Tier II application Information

Production Data

Max. Hourly Rate (tph) 12.2
Act. Hourly Rate (tph) 5
Oversize product (tph) 4

Dryer Data

Max. Combustion Rate (ft³/hr) 6000
Annual Combustion Rate (ft³/yr) 5.3E+07
N. G. Heat Content (Btu/ft³) 1050

Source	Pollutant	E. F. Unit	Reference	Control Equipment	Eff. %	E. Rate lb/hr	Op. Time hr/yr	E. Rate tons/yr
Pug Mill, Granulator, Dryer, Coc	PM	0.313 lb/ton	Source Test	Wet Scrubbers	inc.	3.819	8760	16.725
	PM-10	0.313 lb/ton	Source Test	Wet Scrubbers	inc.	3.819	8760	16.725
	Fluorides	8 lb/ton	T 8.5.2-1, 5th	Wet Scrubbers	97	2.928	8760	12.825
Screen (Rotex)	PM	0.039 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.480	8760	2.104
	PM-10	0.015 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.183	8760	0.802
Fine Screens (Hummer, Mini)	PM	0.186 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	1.528	8760	6.694
	PM-10	0.071 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.582	8760	2.550
Conveyor Transfer (10 Pts. to S	PM	0.004 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.224	8760	0.982
	PM-10	0.001 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.085	8760	0.374
Conveyor Transfer (8 Pts. from	PM	0.004 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.090	8760	0.393
(assume half load)	PM-10	0.001 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.034	8760	0.150
Conveyor Transfer (loadout)	PM	0.004 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.055	8760	0.241
at 30 tph rate	PM-10	0.001 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.021	8760	0.092
Hammer Mill (fines crushing)	PM	0.039 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.059	8760	0.259
	PM-10	0.015 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.023	8760	0.099
$E = k(0.0023)(U/5)^{1.3}/(M/2)^{1.4}$		U= 7.8 mph	$M_o =$		4.8 %	$M_p =$		0.5 %
Ore Piling	PM	0.001 lb/ton	T 11.19.2-2, 5th	Moisture Content	0	0.015	8760	0.064
	PM-10	0.000 lb/ton	T 11.19.2-2, 5th	Moisture Content	0	0.005	8760	0.023
Ore Feeding	PM	0.001 lb/ton	T 11.19.2-2, 5th	Moisture Content	0	0.015	8760	0.064
	PM-10	0.000 lb/ton	T 11.19.2-2, 5th	Moisture Content	0	0.005	8760	0.023
Feed Shaker Screen	PM	0.039 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.240	8760	1.052
	PM-10	0.015 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.092	8760	0.401
Product Loading	PM	0.029 lb/ton	T 11.19.2-2, 5th	Moisture Content	0	0.348	8760	1.526
	PM-10	0.01 lb/ton	T 11.19.2-2, 5th	Moisture Content	0	0.122	8760	0.534
Product Loadout Shaker Scree	PM	0.039 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.240	8760	1.052
	PM-10	0.015 lb/ton	T 11.19.2-2, 5th	Dust Suppressan	50	0.092	8760	0.401

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Source	Pollutant	E. F. Unit	Reference	Control Equipment	Eff. %	E. Rate lb/hr	Op. Time hr/yr	E. Rate tons/yr
Dryer's Combustion Emissions	PM	12 lb/Mcf	T 1.4-1, 5th	none	97	0.002	8760	0.009
	PM-10	12 lb/Mcf	T 1.4-1, 5th	none	97	0.002	8760	0.009
	SO2	0.6 lb/Mcf	T 1.4-2, 5th	none	0	0.004	8760	0.016
	NOx	100 lb/Mcf	T 1.4-2, 5th	none	0	0.600	8760	2.628
	CO	21 lb/Mcf	T 1.4-2, 5th	none	0	0.126	8760	0.552
	VOC	5.28 lb/Mcf	T 1.4-3, 5th	none	0	0.032	8760	0.139

Source	Pollutant	E. F. Unit	Reference	Control Equipment	Eff. %	Pile Area Acre	Op. Time days	E. Rate tons/yr
Active Stockpiles	PM	13.2 lb/ac/dy	T 8.19.1-1, 4th	Dust Suppressan	50	0.574	280	0.530
	PM-10	6.3 lb/ac/dy	T 8.19.1-1, 4th	Dust Suppressan	50	0.574	280	0.253
Inactive Stockpiles	PM	3.5 lb/ac/dy	T 8.19.1-1, 4th	Dust Suppressan	50	0.574	85	0.043
	PM-10	1.7 lb/ac/dy	T 8.19.1-1, 4th	Dust Suppressan	50	0.574	85	0.021

Emissions from Scrubber Stack						lb/hr		tons/yr
PM						7.000		30.660
PM-10						7.000		30.660
SO2						0.004		0.016
NOx						0.600		2.628
CO						0.126		0.552
VOC						0.032		0.139

Emissions from Screening, Conveying, and Milling						lb/hr		tons/yr
PM						2.437		10.673
PM-10						0.928		4.066

Emissions from Ore Unloading, Piling, Stockpiles, and Feeding						lb/hr		tons/yr
PM						1.418		1.754
PM-10						1.250		0.720

Emissions from Product Loading						lb/hr		tons/yr
PM						0.589		2.578
PM-10						0.213		0.935

TOTAL EMISSIONS FROM FACILITY						lb/hr		tons/yr
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PM
PM-10
SO2
NOx
CO
VOC
Fluorides

11.443	45.664
9.391	36.380
0.004	0.016
0.600	2.628
0.126	0.552
0.032	0.139
2.928	12.82464

August 7, 2000

**STATE OF IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
RESPONSES TO COMMENTS AND QUESTIONS
SUBMITTED DURING A PUBLIC COMMENT PERIOD
FOR THE PROPOSED MODIFIED PERMIT TO CONSTRUCT
FOR SODA SPRINGS PHOSPHATE, INCORPORATED**

Introduction

The public comment period for the Soda Springs Phosphate, Incorporated permit application and proposed modification of the air quality permit for the granulation of phosphate ore and gypsum in Soda Springs, Idaho was held from June 22, 2000 through July 24, 2000. No public hearing was requested and no public hearing was held. Comment packages which included the application materials, DEQ's technical analysis, and the proposed permit were made available for public review at the Soda Springs Public Library, DEQ Regional Office in Pocatello, and the state office in Boise. A total of two written comments were received by the Idaho Department of Environmental Quality (DEQ).

Public comments regarding the air quality aspects of the proposed permit and analysis have been summarized below. Due to the similarity of the comments received, the summary presented below will have some comments that have been combined and/or paraphrased in order to eliminate duplication and to provide a more concise summary. Questions, comments, and/or suggestions received during the comment period which did not relate to the air quality aspects of the permit application, DEQ's technical analysis, or the proposed permit are not addressed.

Public Comments and DEQ Responses

Comment 1: The two commenters were primarily concerned about the odors from the plant. They were concerned that the issuance of the proposed Tier II permit would increase odors that originated from the plant.

Response to 1: The requirements for control of odors are given by IDAPA 58.01.01.775 and IDAPA 58.01.01.776. Section 775 states that control of odorous emissions apply for all sources for which no gaseous emission control rules apply. Section 776 states that no person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids into the atmosphere in such quantities as to cause air pollution.

Based on the comments and the regulatory requirement to control odors, DEQ will incorporate language into the Tier II permit to address odor complaints and problems. The language in the Tier II permit will include the following:

The permittee shall maintain a log of all odor complaints received. If the complaint has merit, the permittee shall take appropriate corrective action as expeditiously as practicable. The log shall, at a minimum, include the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Comment 2: One commenter indicated that emissions from the plant impair visibility.

Response to 2: Visible emissions are addressed in this permit in accordance with IDAPA 58.01.01. In the permit, the following conditions are stated:

Dryer/Cooler Scrubber Stack

1. **EMISSION LIMITS**

- 1.2 Visible emissions from the Scrubber Stack shall not exceed twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period, as required by IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho).
- 1.3 Visible fugitive emissions from the pug mill and the granulator shall not be observed leaving the property boundary exceeding a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. This visual determination is to be conducted using Method 22, as described in 40 CFR Part 60, Appendix A.

3. MONITORING AND RECORDKEEPING REQUIREMENTS

- 3.3 Monthly visible emission evaluations shall be performed on the scrubber stack and recorded by a certified opacity reader following the procedures outlined in IDAPA 58.01.01.625 (Rules for the Control of Air Pollution in Idaho). All data shall be kept on-site, in a log, for a period of two (2) years and made available to DEQ representatives upon request.

Product Screening, Conveying, and Milling

1. EMISSION LIMITS

- 1.2 Visible emissions from the Product Screening, Conveying, and Milling shall not be observed leaving the property boundary exceeding a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. This visual determination is to be conducted using Method 22, as described in 40 CFR Part 60, Appendix A.

3. MONITORING AND RECORDKEEPING REQUIREMENTS

3.4 Performance Test

Prior to July 31 of each calendar year, the Permittee shall conduct an annual performance test on the scrubber stack to demonstrate compliance with the PM limits listed in Appendix A and all other requirements of this permit. The performance test shall be performed at the maximum feed rate of the process and in accordance with Section 157. Visible emissions shall be observed and recorded concurrently with the emission test. In addition, visible emission determinations shall be performed at the property boundary. The pressure drop across the wet scrubber system, scrubbing media flowrate, fresh water flowrate, dryer temperature, and fertilizer throughput shall be continuously monitored and recorded during the emission test in order to set the parameters required in Section 2 of this permit.

The Permittee is strongly encouraged submit a protocol for the performance test to DEQ for approval at least thirty (30) days prior to the test date.

The Permittee shall submit a written report of the performance test to DEQ within thirty (30) days after performing the test.

Comment 3:

Commenters stated that no increase or variance in emissions should be granted.

Response to 3:

The Tier II permit does not allow the increase in emissions to exceed ambient air quality standards, nor does this permit involve any kind of "variance" from air quality regulations.

In an effort to assure compliance with the National Ambient Air Quality Standards (NQAAS), DEQ recently investigated the background PM-10 concentrations for the Soda Springs area and found the following (note these background concentrations differ from that used in the analysis for the modified OP dated July 23, 1999):

PM-10 24-hour background concentration: $108 \mu\text{g}/\text{m}^3$

PM-10 annual background concentration: $23.3 \mu\text{g}/\text{m}^3$

Based on a scrubber stack performance test result of 8.3 lb/hr, DEQ modeled the PM-10 ambient impacts from this point source using ISCST3. DEQ determined that the impacts are $44.74 \mu\text{g}/\text{m}^3$ (24-hr) and $5.82 \mu\text{g}/\text{m}^3$ (annual). When background concentrations are added, the impacts are:

24-hr: $108 \mu\text{g}/\text{m}^3 + 45 \mu\text{g}/\text{m}^3 = 153 \mu\text{g}/\text{m}^3$, which is $>$ the standard of $150 \mu\text{g}/\text{m}^3$.

Annual: $23.3 \mu\text{g}/\text{m}^3 + 5.82 \mu\text{g}/\text{m}^3 = 29.12 \mu\text{g}/\text{m}^3$, which is $<$ the standard of $50 \mu\text{g}/\text{m}^3$.

Therefore, there is a potential exceedance of the 24-hr National Ambient Air Quality Standard (NAAQS) for PM-10 based on an emission rate of 8.3 lb/hr for the scrubber stack. SSP then requested that the scrubber stack emission rate be permitted to 7 lb/hr, which is greater than the originally permitted value of 5 lb/hr, but less than the performance test result of 8.3 lb/hr. SSP stated they would improve the emission control equipment in order to meet a 7 lb/hr standard.

At 7 lb/hr, the estimated 24-hour PM-10 ambient impact from the point source is $38 \mu\text{g}/\text{m}^3$. When added to the 24-hour background concentration of $108 \mu\text{g}/\text{m}^3$, the total 24-hour ambient concentration for PM-10 is $146 \mu\text{g}/\text{m}^3$. This is less than the 24-hour NAAQS of $150 \mu\text{g}/\text{m}^3$, and DEQ will allow a permitting limit of 7 lb/hr based on this modeling analysis and SSP's improvement in emission control. To assure the new emission limit will be met, DEQ proposes to increase the performance testing from a one time requirement to an annual requirement.